

CLAIMS

11. (cancelled).
12. Footwear with elastic soles compressible during downward movement of the leg, and rebounding during subsequent up-lift of said leg, specifically for an individual of known body weight engaged in a specific rhythmic athletic activity, said footwear designed, manufactured, adjusted, or selected with a specific spring constant, said spring constant determined from Hooke's Law so as to cause said rebound to take place exactly at the time of said upward movement of said leg, whereby affording maximal assistance to lifting said leg at each step.
13. The footwear of Claim 12, with spring constant determined from Hooke's Law so that under pressure of a specific individual's feet, said footwear exhibits loaded harmonic motion at the same frequency as said individual's repetitive up-and-down foot movement in course of walking, jogging, jumping or other rhythmic athletic activities.
14. The footwear of claim 12, designed, manufactured, adjusted, or selected based on the following factors:
 - a. body weight of said individual,
 - b. frequency per second of the up-and-down movements of said individual's legs while engaged inand for any given combination of said factors a, b, determining from Hooke's Law the specific spring constant required for said footwear, whereby optimal

footwear can be made available for a plurality of athletic activities by a plurality of individuals, said footwear in all instances storing maximal amount of down-step energy during each athletic activity of each one of said individuals, always releasing said energy substantially at the moment of said up-step of each said individual, and in each athletic activity.

15. A shoe or other footwear of Claim 12 containing compressible elastic material, whether said elastic material is integral with and an intrinsic part of the bottom of said shoe or other footwear, or an insert inside said shoe or other footwear, or insert into the sole and/or heel of said shoe or other footwear, or an external attachment between the bottom of said footwear and ground, so that said footwear exhibit a particular spring constant, which spring constant can be adjusted for, or by, the footwear user, whether such selection is effectuated through substitution of one shoe for another shoe having a different spring constant, or through substitution of one insert for another with a different spring constant, or substitution of one external attachment by another external attachment with a different spring constant, or a combination of these three methods by themselves, or with any other method which modifies the spring constant of said footwear, where said spring constant is selected based on Hooke's Law so as to produce rebound of said footwear for an individual of specified body weight in synchrony with any desired athletic activity of said individual.